Whole language versus code-based skills and interactional patterns in Singapore’s early literacy program

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This paper analyzes whole language and code-based skills approaches in early literacy and the specific patterns of interaction present in both approaches. Nine-teen hours of video data were coded to analyze the nature of whole language versus code-based skills instruction and document the allocation of time spent on each approach in a reading program. Data come from a cross-sectional study in Singapore where the Learning Support Program (LSP), a reading program for low-track students, was studied in five schools. Overall, 73% of class time in the dataset showed code-based skills instruction. However, the approach to instruction changed within the LSP in a linear fashion. Though in the early years of the LSP there was an over-emphasis on code-based skills and lack of variety in patterns of interaction, in later years there was a balance between whole language and code-based skills and a wider variety of interactional patterns.

Keywords: early literacy; interactional patterns; Singapore; whole language; code-based skills

Introduction
The two main approaches to early literacy intervention for low-track students are whether to take a whole language approach or an approach which emphasizes instruction in code-based skills. A pedagogy which combines both approaches is also common. In this paper I revisit the debate between these two approaches to early literacy intervention but with a mixed methodology. Traditionally, test results have been the dominant method by which scholars have proven the effectiveness of a specific approach to literacy. However, there is a dearth of qualitative data on exactly what a class in whole language looks like as compared to a class in which code-based skills are emphasized. This paper eschews test results and takes a mixed methodology approach to analyzing the nature of pedagogy driven by a whole language approach versus pedagogy driven by an emphasis on code-based skills. The data are from Singapore which ranks high in international reading tests but also has many students in the national school system who struggle with becoming proficient readers in English. According to the 2011 Progress in Reading Literacy Study, which is a test of reading for fourth graders, Singapore ranks number 4 amongst a list of 45 countries (http://timssandpirls.bc.edu). Since students in Singapore are tested on their English reading skills for the Progress in Reading Literacy
Study, undoubtedly this high rank affirms the success of the country’s bilingual education policy. However, these results also camouflage the fact that though Singapore uses English as medium of instruction, many children come from homes where English is not the dominant language and these children often do not have the requisite reading skills in English. There are three official languages in Singapore besides English: Chinese, Malay and Tamil. Nearly all Singaporean children are bilingual not only because of the multilingual environments in which they are raised but also because two languages are obligatory in all schools: English as medium of instruction, and the child’s ‘mother tongue’ which is taught as a second language. The term ‘mother tongue’, though controversial in the international academic community, is widely used in Singapore. It refers to Chinese, Malay and Tamil, which are the main languages of the three main ethnic groups in this country.

This paper is based on a cross-sectional study conducted on Singapore’s Learning Support Program (LSP), an early intervention program for struggling readers. When children enter school at the age of six they are given the Singapore Word Reading Test, created by the Ministry of Education. Those who fail this test are sent to the LSP where they are provided with support for half an hour per day in a different room. Children in the LSP are considered low-achieving students in reading and the emphasis on whole language versus code-based instruction is doubly important as these opposing emphases are supposed to specifically impact struggling readers.

Called Learning Support Co-ordinators, teachers in the LSP are given three to four weeks of intensive training by the Ministry of Education. This is in addition to the pre-service training they have already received to become teachers in Singapore. Curriculum and pedagogy in the LSP are highly prescriptive and the majority of teachers try to follow lesson plans and learning objectives in a methodical and efficient manner. Consequently, it is possible that the pedagogy and interactional patterns that will be discussed later in this paper are more a result of prescription rather than personal belief.

The LSP is divided into Tiers 1, 2 and 3 which are developmental: children enter in Tier 1 at age six and exit after Tier 3 at age eight. Tier 1 is focused on teaching basic skills in phonics and phonemic awareness while Tier 3 is supposed to have a whole language approach. These tiers are different from the tiers in the Response To Intervention (RTI) model used in the USA where children from Tier 1 who need additional help are corralled into Tier 2 for more intensive intervention (Samuels, 2011). Unlike in RTI, all children in the LSP move up through the three tiers; however, in case a child masters the skill of reading before reaching Tier 3, he/she can
be moved out of LSP and mainstreamed earlier. My conversation with teachers has revealed that many schools have students who do not pass the assessment prescribed at the end of Tier 3. Yet, they have to be mainstreamed as there is no learning support after Tier 3.

My overall purpose is to discuss instructional practice in Singapore’s LSP in terms of whole language versus code-based skills and link these practices with specific types of student–teacher interaction. I begin with a review of literature in which I focus on three selected topics: the Reading Recovery (RR) program, oracy and recommendations for a balanced approach to literacy instruction. The rationale for describing RR is that though the procedure in this program is different from the LSP, its goals are the same. Oracy is a topic that not only overlaps with whole language, it also provides a foundation for my discussion on interactional patterns. In the LSP actual writing is a very small part of each lesson and oral participation takes up most of class time. Throughout this review the shortcomings of whole language are highlighted, which leads to recommendations for a balanced approach to literacy instruction. Though a balanced approach is not a new idea, what is novel for the LSP is to consider that even emergent literates, i.e. those who have just entered school, could benefit from the balanced approach. I conclude the review with a summary of research that has already been conducted in primary English classrooms in Singapore and emphasize what my questions add to this body of work.

Review of literature
The term ‘whole language’ was popularized by Goodman (1986) in the late 1980s. ‘A Whole Language approach immerses young children in reading and writing activities that are deemed authentic, that is involving real purpose or genuine attraction’ (Cooper, 2005, p. 235). In the whole language approach learning to read is a natural process and explicitly teaching phonics rules is considered an unnecessary exercise.
Figure 3. Interactional patterns in schools. (a) Qin Hua Primary School (Tier 1); (b) Jin Hua Primary School (Tier 2); (c) Hazelnut Primary School School (Tier 2); (d) Nan Xin Primary School (Tier 2); (e) Everbest Primary School (Tier 3).
The story books used in this approach are not decodable and usually the teacher reads them aloud to the students (Donat, 2006). According to Chapman, Tunmer, and Prochnow (2001), one of the primary strategies in this approach for identifying unfamiliar words is using sentence context and not phonological awareness. Though whole language became extremely popular in the late 1980s and 1990s, this approach to literacy ran into controversy as some scholars thought that whole language was inadequate for struggling readers who did not have the pre-requisite literacy skills to guess the meaning of an unfamiliar word only from contextual clues.

Whole language and Reading Recovery
One of the best known early intervention programs to incorporate the whole language approach is RR. In fact, the literature on the effectiveness of interventions in early literacy is dominated with controversies over the success of RR. Innovated in New Zealand by Dame Marie Clay in the 1970s, the goal of RR is to support children with reading difficulties after one year of schooling. In RR the child is given daily individual instruction of 30 minutes taking a whole language approach for 12–20 weeks (Reynolds & Wheldall, 2007). From New Zealand RR has been exported to the UK, USA and Australia where it is still used, though the one-on-one nature of this intervention program makes it expensive to implement.

Since the pedagogic and curricular practices in RR are representative of a whole language approach and there are few qualitative studies on whole language, I summarize what takes place in a typical RR program to document pedagogy and curricular foci in whole language. Typically there are seven activities in RR in the following order: (1) re-reading of two or three familiar books; (2) independent reading of the previous day’s book during which the teacher keeps a running record of the child’s miscues; (3) letter and word identification using plastic letters on a mag- netic board; (4) writing a story the child has composed; (5) re-assembling a cut-up story; (6) introducing a new book; and (7) reading a new book (Chapman et al., 2001).

The alleged success of RR (Pinnell, Lyons, Bryk, & Seltzer, 1994) has been questioned (Center, Freeman, & Gregory, 2001; Chapman et al., 2001). Pinnell et al. (1994) compared a traditional implementation of RR with three variations on RR:

Figure 4. Choral recitation across schools and tiers.
Figure 5. Lecture across schools and tiers.

(1) a program modeled on RR but in which teachers were trained for a shorter period, (2) a one-on-one program which did not use a whole language approach but used skills-based instruction instead, (3) and a group taught by RR teachers. The results showed that children in the traditional RR model performed better on a battery of four tests when compared with children in the other three models.

On the other hand, Center et al. (2001) study, which was about whether the whole language approach in RR works for low-track students, showed the opposite results for RR. Students in three schools in Australia were given RR and a different program called SWELL (School Wide Early Language and Literacy). Unlike RR, the SWELL program was administered to the whole class and took a bottom-up approach to literacy with explicit instruction in phonics, phonemic awareness and decoding. The results showed that SWELL in kindergarten and Year 1 was better able to support at-risk students as compared to RR.

In a similar vein, Chapman et al. (2001) showed that one of the main shortcomings of RR was that it did not provide explicit instruction in phonological skills, which are crucial for developing reading proficiency. In a longitudinal study which compared four groups of students, the authors proved through extensive test results that children who received RR had lower reading scores than the other groups. They also had lower self-concept in reading and more behavior problems. Through specific test results the authors also showed that ‘the immediate and long term effective- ness of the RR program on literacy achievement is highly dependent on the development of phonological-processing skills’ (Chapman et al., 2001, p. 165).

Oracy
A whole language approach, when it is implemented in a reading class, is similar to an emphasis on oracy. The National Institute for Literacy (NIFL, 2008) in the USA has identified 11 essential early skills relevant to later literacy development. These 11 variables are alphabet knowledge, phonological awareness, rapid automated naming of letters and objects, writing name, phonological memory, concepts about print, print knowledge, reading readiness, oral language and visual processing. The NIFL (2008) study corroborates Snow, Burns, and Griffin's (1998) view that an emphasis on oral language can help prevent reading difficulties.
According to the NICHD (2005), two broad classes of skills have been identified as affecting later reading performance: code-related skills and oral language skills. The former group of skills includes phonological awareness, letter naming, phonological decoding, emergent writing and print awareness. The latter includes vocabulary (receptive and expressive), syntactic and semantic knowledge, and narrative discourse processes (memory, comprehension and storytelling). Not only are these two broad skill sets statistically separable, some of the sub-skills (e.g. vocabulary in oral language) are also statistically separable from the larger set in which they belong. What this means is that when reading is measured quantitatively, it is possible to predict what the effect of each of these subskills will be on later reading achievement.

The NICHD (2005) compared the influence of code-based skills and oral language skills on later reading. The purpose of this study was to investigate the contribution of pre-school oral language skills to reading performance in early elementary school after siphoning out the contribution of code-based skills. Subjects were administered a battery of tests at four stages of their development: 36 months, 54 months, first grade and third grade. The conclusion was that 54-month comprehensive oral language competence (excluding vocabulary) related both directly and indirectly to third-grade reading comprehension for children from both higher and lower socio-economic status groups. The study thus stresses the importance of oral language skills and whole language in early literacy as a predictor of later reading achievement.

Statistically oral language has a moderate, yet significant influence on language acquisition. A large-scale study by Saunders, Foorman, and Carlson (2006) on oral language use across program types corroborated this. The authors observed 85 kindergartens across four program types: English immersion, transition, maintenance and dual language. In each of these programs they studied classrooms with and without an English Language Development (ELD) block that specifically targeted oral language. Though the effect sizes were small they found that students in classrooms with an ELD block had higher English oral language composite scores, higher word identification scores and a tendency towards higher letter-sound scores.
As the section on findings will demonstrate later in my paper, not enough emphasis is given to oracy in the LSP. This lack of oracy is evident from a pedagogy which emphasizes patterns of interaction that limit student-talk.

A balanced approach

It is not surprising that given the strengths and shortcomings of both these approaches to literacy, scholars recommend a balanced approach (Donat, 2006; Pressley et al., 2001). Donat (2006) analyzed the results of Reading Their Way, a literacy intervention that was comprised of phonemic awareness, phonics, contextual reading, and writing. The study showed that children enrolled in the Reading Their Way intervention were better able to meet the requirements of third-grade reading levels than children who were taught reading with a whole language approach. In the Donat (2006) study, comprehension through whole language was emphasized from the very beginning of the reading program. ‘RTW emphasizes activities that effectively enhance the following comprehension skills: activating prior knowledge, questioning, visualizing, understanding inferences, recognizing important ideas, synthesizing information, and repairing understandings’ (Donat, 2006, p. 311).

In the Pressley et al. (2001) study, after close observation of 10 teachers across five states in the USA, the authors came up with 103 behaviors and characteristics, organized under seven categories, which were typical of highly effective first-grade reading teachers. These seven categories were: excellent classroom management, a co-operative environment, balancing of skills instruction and whole language, emphasis on literature, large quantities of reading and writing, scaffolding, encouragement of self-regulation and making connections across the curriculum. Undoubtedly the most important category for my research was the balance between skills instruction and whole language. The authors commented that ‘Even though a great deal of skills instruction was occurring, its co-occurrence with immersion in literature and writing could not be missed in the most-effective-for-locale classrooms, with virtually every day filled with exposure to and reading of excellent literature and writing’ (Pressley et al., 2001, p. 47).
Table 1. Summary of classroom observations.\(^1\)

<table>
<thead>
<tr>
<th>Pseudonym of school</th>
<th>Hours of observations</th>
<th>Pseudonym of teacher</th>
<th>Tier within LSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qin Hua Primary</td>
<td>3.5</td>
<td>Ms. Ang Lim Sin</td>
<td>1</td>
</tr>
<tr>
<td>Jin Hua Primary</td>
<td>5</td>
<td>Ms. Pamela Fernandaz</td>
<td>2</td>
</tr>
<tr>
<td>Nan Xin Primary</td>
<td>3</td>
<td>Ms. Tan Sun Hee</td>
<td>2</td>
</tr>
<tr>
<td>Hazelnut Primary</td>
<td>4</td>
<td>Ms. Lina Lim</td>
<td>2</td>
</tr>
<tr>
<td>Everbest Primary</td>
<td>3.5</td>
<td>Ms. Siti</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Since each lesson is for half an hour, 3.5 hours of observation for Ms. Ang Lim Sin means that we observed seven lessons of Ms. Ang Lim Sin. Similarly 10 lessons of Ms. Pamela Fernandaz, six lessons of Ms. Tan Sun Hee, eight lessons of Ms. Lina Lim and seven lessons of Ms Siti were observed.

The Singapore context

Though there is a substantial body of literature on Singapore’s primary school English classrooms which focuses on interactional patterns (Gu, Hu, & Zhang, 2005; Lan Curdt-Christiansen & Silver, 2012a, 2012b; Liu & Hong, 2009), there is no study on the use of whole language versus code-based skills in early literacy. Liu and Hong (2009) and Lan Curdt-Christiansen and Silver (2012a, 2012b) focused on culture as a mediating influence in the way teachers enact the primary school English curriculum in Singapore. Liu and Hong (2009) explored the ‘regulative discourse’ of teachers, i.e. classroom discourse which is replete with directives. They commented that the hierarchical relationship between teachers and students in an Asian context enables the teachers to adopt this authoritative stance.

Similarly, Lan Curdt-Christiansen and Silver (2012a, 2012b) gave importance to culture as a mediating influence on pedagogy. They analyzed the outcomes of two major educational initiatives in Singapore: Thinking Schools Learning Nation (TSLN) and Strategies for English Language Learning and Reading (STELLAR). For both these educational initiatives the authors found that though teachers adopted changes in the physical layout of primary school classrooms and in the curricular materials, there were no noticeable changes in pedagogy. In most lessons the teacher used display questions in a ‘persistent questioning mode’ to regulate discourse and circumscribe the students into a limited set of discourse options.

To conclude this review, there is lack of focus on interactional patterns in the literature on whole language versus code-based skills. In the context of Singapore, though there is focus on interactional patterns in primary English classrooms, there is no study on whole language and code-based skills. Given this background I explore answers to the following research questions:

1. What is the allocation of whole language versus code-based skills instruction in Singapore’s LSP?
2. How does this allocation change as the children move from Tier 1 to Tier 3 within the LSP?
3. How do interactional patterns change across Tiers?
4. What is the difference between interactional patterns in a whole language approach versus code-based skills approach in the specific context of Singapore’s LSP?
Table 2. Coding results from Everbest Primary School (Day 1).

<table>
<thead>
<tr>
<th>Episode number</th>
<th>Code-based skills/whole language</th>
<th>Activities</th>
<th>Start time–end time</th>
<th>Interactional patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Code-based skills</td>
<td>Teacher shows cards with ‘Gr’ words. Pupils say the words</td>
<td>0.13–1.05</td>
<td>Choral recitation</td>
</tr>
<tr>
<td>2</td>
<td>Code-based skills</td>
<td>Teaching the magic 'e' rule with different sight words</td>
<td>1.05–3.14</td>
<td>Choral recitation</td>
</tr>
<tr>
<td>3</td>
<td>Whole language</td>
<td>Teacher introduces the story The Grasshopper and the Ant</td>
<td>3.14–5.23</td>
<td>Whole class elicitation</td>
</tr>
<tr>
<td>4</td>
<td>Whole language</td>
<td>Explains the word ‘play’</td>
<td>5.23–6.45</td>
<td>Lecture</td>
</tr>
<tr>
<td>5</td>
<td>Whole language</td>
<td>Teacher reads and asks questions</td>
<td>6.45–8.56</td>
<td>Reading and whole class elicitation</td>
</tr>
<tr>
<td>6</td>
<td>Code-based skills</td>
<td>Teacher shows words from the story on flash cards</td>
<td>8.56–9.39</td>
<td>Choral recitation</td>
</tr>
<tr>
<td>7</td>
<td>Whole language</td>
<td>Pupils reading procedure</td>
<td>9.39–10.10</td>
<td>Procedural</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procedural (teacher gives out crowns)</td>
<td>10.10–12.02</td>
<td>Choral recitation</td>
</tr>
<tr>
<td>8</td>
<td>Whole language</td>
<td>Whole class activity – students perform this story by taking different parts</td>
<td>13.50–15.00</td>
<td>Role play</td>
</tr>
<tr>
<td>9</td>
<td>Whole language</td>
<td>Teacher retells the story</td>
<td>15.00–15.22</td>
<td>Lecture</td>
</tr>
<tr>
<td>10</td>
<td>Whole language</td>
<td>Procedural</td>
<td>15.22–15.53</td>
<td>Lecture</td>
</tr>
<tr>
<td>11</td>
<td>Whole language</td>
<td>Teacher discusses the story map with the children</td>
<td>18.26–24.01</td>
<td>Whole class elicitation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procedural instructions</td>
<td>24.01–25.30</td>
<td></td>
</tr>
</tbody>
</table>

Methodology

The data to explore these research questions are from a project conducted by Singapore’s National Institute of Education, Office of Education Research. The project, titled ‘Building English Competencies in Bilingual Underachievers: A Baseline Study of Singapore’s Learning Support Program’, was conducted from January 2009 till December 2011 (OER 28/08VV).

Participants

The participants were 96 Learning Support Co-ordinators (teachers in the LSP are called Learning Support Co-ordinators) who responded to a survey and approximately 45 students who were observed and video-taped. Of these 45 students, 10 focal students were both observed and interviewed. The reason I indicate that ‘approximately 45’ students were videotaped is because though there are 6–10 students in each of the five classes that were observed, a few were absent on some of the video-taping days. All the Learning Support Co-ordinators in Singapore are female.
Quantitative phase
Data collection for this project was divided into a quantitative and a qualitative phase. The quantitative phase will be described very briefly as the findings from this phase have not been used in the current paper. In the quantitative phase a total of 270 Learning Support Co-ordinators were given a survey which yielded 96 responses. The items in the questionnaire were divided into three sections: background of the teacher, beliefs about bilingualism and pedagogic practice. The results of the survey showed that in keeping with the focus of their training program, most teachers believed in an immersion approach though, ironically, they also believed that the ‘mother tongue’ can aid in learning English. More specifically, the more experience the teacher had the more likely she was to believe that the ‘mother tongue’ can aid in the teaching of English (Vaish, 2012).

Qualitative phase
The last item in the survey asked if the Learning Support Co-ordinators would be willing to allow the research team to observe them for two weeks. Nine teachers volunteered to be observed from which five were selected such that the project team could observe classrooms in all the three Tiers of the LSP (see Table 1 for details). In the initial meeting before the observations started, the Principal Investigator shared with the teachers that since this was a baseline study of the LSP, the teachers should teach the way they always do and ignore the camera. Two weeks of lessons meant a total of 10 lessons per teacher. Each lesson is for half an hour and lessons are conducted daily. As this is a cross-sectional study there were different students in each Tier. Though we wanted to observe at least 10 lessons for each of the five teachers this was not possible due to administrative reasons. The project has a total of 19 hours of classroom observations which means 38 lessons were observed across five teachers. All the observed lessons were video-taped and transcribed.

Included in the qualitative phase are audio-recorded interviews which were conducted with the five Learning Support Co-ordinators and the five focal students in their classes. Data from interviews are not used in this paper; however, interview results are reported in Vaish (2012).

Video coding
Nineteen hours of video were coded for documenting the allocation of whole language versus code-based skills instruction. Thereafter these approaches to literacy were linked with specific interactional patterns. The results for one lesson from Everbest Primary School are shown in Table 2.

In Table 2 the extreme left column reports the number of episodes in a lesson of 25 minutes and 30 seconds. The concept of ‘episode’ is loosely based on Nystrand (1997) who explained ‘episode’ as an interactional pattern or activity that can be considered a separate unit within a classroom. On this basis there were 11 episodes in the lesson coded in Table 2. In the column to the right of ‘episodes’ the teacher’s approach has been coded, i.e. whether she uses whole language or code-based skills.
Of the 11 episodes in this lesson the teacher used code-based instruction in only three episodes. In the other eight episodes she approached the activity through whole language. The column in the middle, titled ‘Activities’, describes the actual task being conducted. The column on the extreme right documents the dominant interactional pattern in that episode.

‘Procedural’ refers to teacher talk which was mainly about giving instructions, for instance how to line up after class, who will distribute the pencils, etc. This type of utterance was placed under a separate category as it is neither code-based instruction nor a whole language approach.

Findings

Figure 1 shows that in the 19 hours of video data collected from five schools, 73% of the time the teachers used code-based skills instruction. Only 17% of the time was allocated to whole language. Thus in answer to the first research question regarding what is the allocation of each approach in the LSP, the overall approach clearly emphasized code-based skills.

Figure 2, which is separated into two parts for ease of interpretation, provides answers to the second research question: How does the approach to literacy change within the three tiers of the LSP?

Figure 2a shows that though no time was spent on whole language in Tier 1, this increased to 13.6% in Tier 2 and then to 58% in Tier 3. On the other hand, Figure 2b shows that the emphasis on code-based skills instruction in Tier 1 was heavy: 88%. This went down to 80% in Tier 2 and then there was a significant reduction to 36% in Tier 3. Together Figures 1 and 2 depict that the small amount of time spent on whole language, i.e. 17%, was concentrated entirely in the higher tiers. Students in Tier 1 were taught to read mainly through a code-based approach to literacy.

The focus of the third research question is on interactional patterns or the discourse practices used in the LSP. Figure 3, which provides information on interactional patterns, is divided into five parts (Figure 3a–e). There is one part for each of the five schools in my data set.

According to Figure 3, interactional patterns became more diverse as the children moved up through the tiers. In Figure 3a the main interactional pattern in Qin Hua Primary School, where Tier 1 classes were observed, was choral recitation. Figure 3b documents the interactional pattern in Jin Hua Primary School where Tier 2 classes were observed. The nature of interaction in Jin Hua Primary School was nearly the same as that of Qin Hua Primary School, because both schools had a predominance of choral recitation in LSP classes, even though these are two different tiers.

Tier 2 classes were observed in three schools: Jin Hua, Hazelnut and Nan Xin Primary Schools. Amongst the three schools Hazelnut showed the widest variety of interactional patterns, as depicted in Figure 3c. Choral recitation, which was predominant in Jin Hua Primary School (Figure 3b), accounted for only 52% of interactional patterns in Hazelnut Primary School. Thus the teacher in Hazelnut Primary School devoted nearly half the class time to other types of interactions: 48% of class time was spread out fairly evenly between whole class elicitation, lecture, conversation/real talk, silence and read aloud.

Figure 3b–d provide opportunities for comparison across a single tier. As mentioned in the Introduction, the LSP is regulated with a prescriptive curriculum and pedagogy. However, Figure 3b–d show great variability in patterns of interaction, and, by extension, pedagogy, though the content of literacy instruction
is the same in all three schools. The interviews with teachers shed some light on the rationale for this variability. The teachers from Hazelnut and Nan Xin Primary schools shared their views on the scheme of work that had been handed down to them, saying that it was very limiting as it restricted them to only those words and sounds that had been taught to the students. Within this scheme of work it was not possible to do comprehension or storytelling.

Ms. Lina Lim, the teacher from Hazelnut Primary mentioned that along with the training she had received from Singapore’s Ministry of Education, she had also received training from a private organization based in the USA. Unlike the Ministry’s training, this training emphasized reading and comprehending connected text. Ms. Lina Lim added that she had incorporated these elements into her pedagogy even though these are not strictly part of the scheme of work in a Tier 2 classroom. She said: ‘If I just had purely phonics … and then reading of sight words and reading of phrases it becomes very boring. And that’s how I find it. The boys get very bored. They get, they get distracted. And they don’t want to do it’ (teacher interview, 19 April 2010). Thus Hazelnut Primary is an outlier in terms of pedagogy because of the teacher’s innovative adaptation of a different type of training. The Hazlenut example highlights that despite a scripted pedagogy which emphasizes drill and practice, some teachers are drawn to a balanced approach to create a more engaged classroom.

Finally, as depicted in Figure 3e, the classes observed in Everbest Primary School, in which the teacher was teaching a Tier 3 class, showed an array of interactional patterns. This school stands out in my data set as the school in which the teacher flexibly changed interactional patterns to suit the activity and learning needs of her class. She used choral recitation only 14% of the time. Whole class elicitation, in which the teacher asked the students questions to aid recall and check comprehension, occurred 27% of the time. In total nine different types of interactional patterns were used in this set of LSP classes. Figure 3a–e provide evidence to answer the third research question: How do interactional patterns change across tiers? Though interactional patterns became more diverse as children moved up the tiers, there were two patterns of interaction that persisted across tiers: choral recitation and lecture. It is to these resilient patterns of interaction that I now turn.

Choral recitation occurred in all the schools varying from a high of 100% in Jin Hua Primary School to a low of 14% in Everbest Primary School.

In Figure 4 choral recitation goes down as the students move up the tiers. In Qin Hua Primary School, in which a Tier 1 class was observed, the percentage of time allocated to choral recitation was 93%. This came down in the schools in which Tier 2 classes were observed. In the three schools in which Tier 2 classes were observed, the average percentage of time spent on choral recitation was 75%. Finally, in a Tier 3 school, Everbest Primary School, only 14% of class time was spent on choral recitation.

In the first instance it might seem that other more interactive interactional patterns took the place of choral recitation as one moved up the tiers. However, this was not the case in the LSP. In fact the place of choral recitation was taken by an interactional pattern which is very teacher fronted: lecture.

As shown in Figure 5, though lecture took only 3% of class time in Qin Hua Primary School in which Tier 1 was observed, this number moved up to as much as 20% in Nan Xin Primary School where Tier 2 classes were observed. The average
percentage of time in Tier 2 classes devoted to lecture was approximately 10%. In Everbest Primary School, where Tier 3 classes were observed, this interactional pattern moved up to 32%. Thus the opposite trend can be observed in the way that teachers used the lecture mode as compared to the way they used choral recitation. Use of lecture as an interactional pattern went up as students progressed to the higher tiers whereas choral recitation went down.

As Figure 6 shows, during a code-based approach to teaching literacy, choral recitation was the dominant way of interacting with pupils. All the other interactional patterns combined made up only 20% of total classroom time.

On the other hand, in a whole language approach, there was a range of interactional patterns. Figures 6 and 7 explore answers to research question number 4: How do interactional patterns differ between a whole language approach and a code-based skills approach in the LSP? Whereas the majority of class time, i.e. 80%, was devoted to choral recitation in a code-based skills approach, there was a wider distribution of interactional patterns in a whole language approach.

Discussion
This study cannot emphasize the merits of a wider variety of interactional patterns on the basis of test results. However, a claim can be made that certain types of interaction result in a more engaged classroom. In Vaish (in press) interactional patterns in the LSP have been linked with high, moderate and low student engagement on the basis of intensive video coding of bidding, eye contact, student talk and bodily display of excitement. When all episodes of high student engagement were clustered together, it was found that three interactional patterns dominated highly engaged classrooms: whole class elicitation, reading and whole class elicitation, and role play. In 40% of episodes with high student engagement the teacher was using whole class elicitation. Reading and whole class elicitation was the interactional pattern in 21% of such episodes. Role play was also the main interactional pattern in 21% of episodes with high student engagement.

Oracy was a key component of the three types of interactional patterns mentioned in the previous paragraph. Indeed ‘student talk’, which was one of the criteria on the basis of which engagement was measured, was evident in all three interactional patterns. As discussed in the review of literature, the whole language approach, when implemented in the classroom, is similar to an emphasis on oracy. The review has also shown how oral language in emergent literates has been correlated with later reading achievement. For this reason it is important that the LSP provides opportunities for students to talk and practice the new vocabulary and syntactical structures that they are learning through genuine conversation. In the present study student talk, which is not choral recitation, occurred mainly in Tier 3 and not in Tiers 1 and 2.

Despite the fact that interactional patterns become more varied as students moved up the tiers in the LSP, most classes were teacher fronted and the percentage of time spent on interactions which allowed the students talk-time was relatively low. For instance, ‘conversation/real talk’ is an interaction in which the teacher used open-ended questions to engage students in genuine conversation based on mutual respect. The term ‘real talk’ is taken from Boyd and Galda (2011), who wrote that despite a ‘messy, hesitant, recursive, incomplete and choppy’ structure, real talk is marked by extended student-led exchanges (Boyd & Galda, 2011, p. 4). This type of interaction was extremely rare in the LSP: it occurred only in two out of five
schools, and that too for very short periods of time. In Qin Hua Primary School conversation/real talk occurred 2% of the time and in Everbest Primary School 4% of the time.

The type of oracy that dominated the LSP was choral recitation, which, despite the fact that it was not ‘real talk’, was still an important pedagogic practice. Paige (2011) recommended whole class choral reading (WCCR), a pedagogy in which the class is taught to read aloud from one text in ‘one voice’ like a choir, to improve decoding ability and oral fluency. Before reading begins, the teacher models accurate pronunciation, appropriate reading rate and prosody. In a class like the LSP where many of the children come from homes where English is not the dominant language, choral recitation was an important part of the teacher’s pedagogy as it gave the children an opportunity to ‘speak’ in class. Since the children spoke in unison, the fear of making mistakes was reduced.

Choral recitation was the main interactional pattern for teaching code-based skills. It is possible that the very same code-based skills could be taught through a wide variety of interactions. Indeed Donat (2006) wrote that in the Reading Their Way curriculum, which is a curriculum that integrates both approaches to literacy, phonemic awareness was taught through songs, poems, stories and games. Though some episodes of the choral recitation included reciting poems in Tier 1, most of the episodes were about repeating words and sounds. There were no stories or games in Tier 1. Thus a variety of interactions including opportunities for oracy and ‘real talk’ were not available to children in Tier 1.

On the other hand, the Tier 3 class observed in Everbest Primary School presents a different environment. The coding in Table 2 documented eight episodes out of 11 in which the teacher took a whole language approach. In episodes 3, 4 and 5 the teacher elicited responses from the students on The Grasshopper and the Ant (Lougehead, 2006) which resulted in an interactive classroom. In episode 8 the students performed an improvised skit wearing crowns with the name of a character written on the crown. This skit, which created a high level of engagement, and the previous episodes of whole class elicitation, are examples of pedagogy in a whole language approach. Though such interactional patterns could also be used to teach phonics, the research team did not observe this in the LSP.

Overall, the LSP does provide a balanced approach to literacy with explicit teaching of phonics and phonemic awareness in Tier 1 as well as shared reading of decodable story books in Tier 3. There was, however, a linear progression in terms of approach to literacy from Tier 1 till Tier 3. Also, as the teachers were not using story books as classroom materials in Tier 1 and many Tier 2 classes, the students had limited exposure to connected text. The only class in Tier 2 where the teacher was using story books as curricular material was Hazelnut Primary School which stands out amongst the Tier 2 schools as the one with the widest variety of interactional patterns. The use of story books gave the teacher an opportunity to use an interaction like whole class elicitation which enhanced oracy. The LSP could consider a balanced approach to literacy within each tier itself in order to increase oracy and improve student engagement.
Conclusions and limitations
This paper has explored the allocation of whole language versus code-based skills instruction in the LSP and how this allocation, along with pedagogy, changes from Tier 1 to Tier 3. Overall, the dominant approach to literacy is code-based skills instruction. However, if we look within the LSP as a continuum, there are differences between tiers: Tier 1 has a far greater emphasis on code-based skills instruction and this tends to come down in favor of the whole language approach as the students progress to Tier 3. Within Tier 2 there is variability in pedagogy despite the fact that the LSP is a highly regulated program. Furthermore, the question of which types of interaction in the LSP are typical in a whole language approach to reading instruction, and which types of interaction are typical in a code-based approach, has been explored. Choral recitation dominates code-based skills instruction and is also the ubiquitous interaction throughout the LSP, followed by lecture, resulting in an extremely teacher-fronted program.

The study is limited to five primary schools and does not claim to be generalizable across the 150 primary schools in Singapore. Of the nine teachers who volunteered to be observed, most were teachers of Tier 2. This, coupled with other logistical reasons mentioned in the section on methodology, resulted in three schools being observed for Tier 2 and only one school each for Tiers 1 and 3. Thus the bulk of observations were concentrated in Tier 2 classes and it is possible that there were other Tier 1 and 3 classes which were different from those depicted in this paper. Indeed, the three schools observed for Tier 2 classes show differences in interactional patterns and this difference across schools could also exist in other tiers. Pedagogy in the LSP is highly scripted; thus it is possible that the teachers actually believe in using a wider variety of interactions even in Tier 1 but do not do so because of their training. Finally, as this is a cross-sectional study, the same students were not followed across the three tiers. Given this limitation it was not possible to longitudinally track the achievements of either individual students or the whole class.

The Singapore case not only reinforces the value of a balanced approach to literacy instruction but also suggests that even in a highly scripted program, some teachers will go against the grain to create more engagement and what they consider to be a better reading environment. A linear approach in which whole language is available to students only when they become more proficient in phonics goes against the concept that listening, speaking, reading and writing are all part of becoming fluent readers. Also, pedagogy itself is a dynamic and flexible practice. Thus the pedagogic practices of whole language can be adapted to teach a code-based curriculum. The fact that there are children who exit programs like the LSP not having mastered the basics of literacy in the medium of instruction, calls for reflection on the pedagogy and approach to literacy in these programs.

Note
1. All ethical clearances were undertaken before the research project started.
References


